Small Spacecraft Technology

PhoneSat

Completed Technology Project (2011 - 2014)

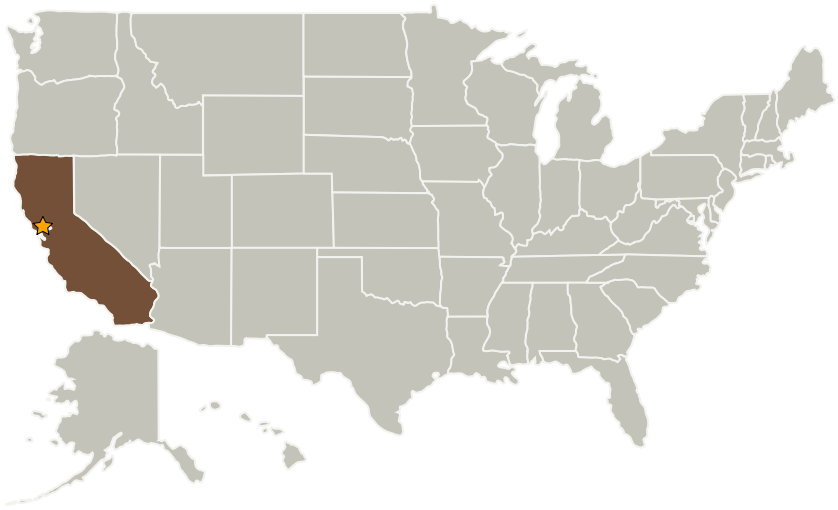
Project Introduction

The PhoneSat series of missions demonstrated the use of a commercial mobile phone as an on-board computer for CubeSats. The project also demonstrated the practicality of using off-the-shelf electronics products in spaceflight applications.

Anticipated Benefits

The PhoneSat series of missions demonstrated a set of new options for cost-effective space or Earth science, exploration, or space operations missions, including space weather observation networks or other small satellite constellations, clusters, or swarms.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations
California

PhoneSat

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Spacecraft Technology

PhoneSat

Completed Technology Project (2011 - 2014)

Project Transitions

November 2011: Project Start

September 2014: Closed out

Closeout Summary: PhoneSats 1.0 and 2.0 demonstrated that commercially available reaction wheels and custom torque coils can work for a low-cost attitude determine and control system (ADCS), and that "homebuilt" solar arrays could charge the batteries on orbit. PhoneSat 2.4 demonstrated that low-cost COTS ADCS works in space and that a commercial cellphone processor works as an S-band command and telemetry modem. PhoneSat 2.5 verified a commercial cellphone processor can support space-based communications systems and also demonstrated transmission of images to a ground station.

Project Website:

https://www.nasa.gov/directorates/spacetech/home/index.html

Project Management

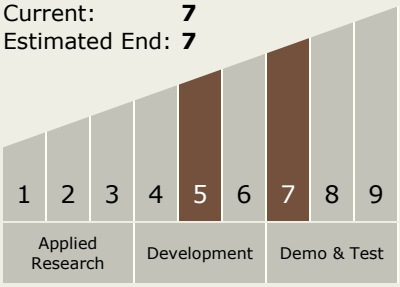
Program Director:
Christopher E Baker

Program Manager:
Roger Hunter

Principal Investigator:
Deborah M Westley Atkins

Technology Maturity (TRL)

Start: **5**
Current: **7**
Estimated End: **7**



Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  - TX02.1 Avionics Component Technologies

Target Destination

Earth